

PATENT

Application No.: 10/609,132

Attorney Docket: 0133.00

In the claims:

1. (Currently amended) An apparatus for filling a chamber, the apparatus comprising:
a hopper adapted to contain a bulk supply of a powder pharmaceutical formulation, the hopper comprising an outlet; and
a vibratable membrane capable of disturbing a medium within the hopper, the disturbance of the medium being sufficient to control the flow of powder through the outlet, wherein the bulk supply of powder is spaced from the vibratable member when the vibratable member is not vibrating and whereby the chamber may be filled by powder flowing through the outlet and into the chamber.
2. (Original) An apparatus according to claim 1 wherein the medium comprises a gas.
3. (Original) An apparatus according to claim 1 wherein the medium comprises air.
- 4-5. Cancelled.
6. (Previously presented) An apparatus according to claim 1 wherein the membrane is adapted to vibrate at a frequency selected to fluidize the powder.
7. (Previously presented) An apparatus according to claim 1 wherein the membrane is adapted to vibrate at a frequency selected to cause resonance within the container.
8. (Previously presented) An apparatus according to claim 1 wherein the vibratable member is adapted to vibrate at a frequency of from about 10 Hz to about 1000 Hz.
9. (Original) An apparatus according to claim 1 further comprising a powder vibrating member.
10. (Original) An apparatus according to claim 9 wherein the powder vibrating member comprises a member adapted to vibrate in contact with the powder.

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11. (Original) An apparatus according to claim 9 wherein the powder vibrating member has a longitudinal axis and wherein the powder vibrating member vibrates in a direction parallel to the longitudinal axis.

12. (Original) An apparatus according to claim 1 wherein the chamber is a chamber in a receptacle.

13. (Original) An apparatus according to claim 12 wherein the receptacle is a blister pack.

14. (Original) An apparatus according to claim 12 wherein the receptacle is a capsule.

15. (Original) An apparatus according to claim 1 further comprising the chamber and wherein the chamber is adapted to transport the powder to a receptacle.

16. (Original) An apparatus according to claim 15 wherein the chamber is a metering chamber.

17. (Original) An apparatus according to claim 15 wherein the chamber is in a rotatable member.

18. (Original) An apparatus according to claim 17 wherein the rotatable member is rotatable between a powder receiving position and a powder ejecting position.

19. (Original) An apparatus according to claim 1 wherein the hopper comprises an enclosure having side walls.

20. (Previously presented) An apparatus according to claim 19 wherein the hopper comprises a cover and wherein the vibratable membrane is in proximity to the cover.

21. (Previously presented) An apparatus according to claim 19 wherein the hopper comprises a cover and wherein the cover comprises the vibratable membrane.

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22. (Currently amended) An apparatus for filling a chamber, the apparatus comprising:

a hopper adapted to contain a bulk supply of a powder pharmaceutical formulation, the hopper comprising an outlet; and

a vibratable member positioned in, on, or near the hopper so that the vibratable member is spaced from the powder in the hopper when the vibratable member is not vibrating and when the hopper contains powder, the vibratable member being capable of fluidizing the powder in the hopper,

whereby the chamber may be filled with powder flowing through the outlet and into the chamber.

23. (Original) An apparatus according to claim 22 wherein the vibratable member comprises a membrane.

24. (Original) An apparatus according to claim 23 wherein the membrane is adapted to vibrate at a frequency selected to fluidize the powder.

25. (Original) An apparatus according to claim 22 further comprising a second vibratable member.

26. (Original) An apparatus according to claim 25 wherein the second vibratable member comprises a member adapted to contact the powder.

27. (Original) An apparatus according to claim 25 wherein the second vibratable member has a longitudinal axis and wherein the second vibratable member vibrates in a direction parallel to the longitudinal axis.

28. (Original) An apparatus according to claim 22 wherein the chamber comprises a receptacle.

29. (Original) An apparatus according to claim 22 further comprising the chamber and wherein the chamber is adapted to transport the powder to a receptacle.

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30. (Original) An apparatus according to claim 29 wherein the chamber is a metering chamber.

31. (Currently amended) A method of filling a chamber, the method comprising:

providing a bulk supply of a powder pharmaceutical formulation in a hopper and providing a separation between the powder and a vibratable membrane when the vibratable membrane is not vibrating;

disturbing a medium in the hopper by vibrating the vibratable a-membrane to fluidize the powder; and

passing the powder through an outlet and into the chamber.

32. (Original) A method according to claim 31 wherein the medium comprises a gas.

33. (Original) A method according to claim 31 wherein the medium comprises air.

34. (Original) A method according to claim 31 comprising disturbing the medium by generating vibrations within the medium.

35. Cancelled.

36. (Previously presented) A method according to claim 31 wherein the membrane is adapted to vibrate at a frequency selected to fluidize the powder so that the powder will pass through the outlet.

37. (Original) A method according to claim 36 wherein the membrane is vibrated at a frequency of from about 10 Hz to about 1000 Hz.

38. (Original) A method according to claim 31 further comprising vibrating a member that is in contact with the powder.

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39. (Original) A method according to claim 31 wherein the chamber comprises a receptacle and further comprising sealing the receptacle.

40. (Original) A method according to claim 31 further comprising transferring the powder from the chamber to a receptacle.

41. (Original) A method according to claim 31 comprising rotating the chamber from a powder receiving position to a powder ejecting position.

42-58. (Cancelled)